
**Virginia Public Health Workforce
Training Needs Assessment
Final Report**

Summary



Summary of Public Health Training Needs Data Virginia Department of Health

Introduction

This report presents selected data on Emergency Preparedness and Response Competencies and Core Public Health Competencies of the Virginia Department of Health workforce by district and region. These data are from the Virginia Public Health Workforce Training Needs Survey and are meant to supplement the overall Virginia data report sent October 7, 2003.

The survey is based on the nationally accepted core public health competencies as put forward by the Council on Linkages Between Academia and Practice, a national forum of the Public Health Foundation. These core competencies represent a set of skills, knowledge, and attitudes necessary for the broad practice of public health. In addition, the assessment includes a section on Emergency Preparedness and Response Competencies as outlined by the Centers for Disease Control and Prevention (CDC), and Columbia University in the report, *Bioterrorism and Emergency Readiness*.

District data were received at the North Carolina Center for Public Health Preparedness from the state of Virginia in Excel spreadsheet format, reviewed, cleaned, and transferred into SAS® for analysis. The North Carolina Center for Public Health Preparedness conducted a basic analysis to report on training needs for Emergency Preparedness and Response Competencies and training needs for Core Public Health Competencies. Training needs are summarized in this supplement by overall state data, by region, and by district.

The North Carolina Center for Public Health Preparedness (NCCPHP) is located within the North Carolina Institute for Public Health (NCIPH) at the University of North Carolina's School of Public Health (UNC SPH). The NCCPHP serves the states of North Carolina, Virginia, West Virginia, Tennessee, and South Carolina. The mission of the academic network of 21 Centers for Public Health Preparedness is "to ensure frontline public health workers have the skills and competencies required to effectively respond to current and emerging health threats, including the threat of bioterrorism."

Methodology

In 2001, the NCCPHP created a survey instrument designed to identify public health worker priority training needs in the core public health competencies. The core public health competencies were established by the Council on Linkages Between Academia and Practice, a national forum of the Public Health Foundation.

NCCPHP pilot tested the assessment instrument in four local health departments of varying sizes in North Carolina. More than 500 public health workers completed the pilot test instrument. Content and face validity have been established through review of pilot test results, expert review, and feedback from public health workers. The instrument has not been assessed for reliability. The current assessment instrument is designed to identify public health worker priority training needs in the core public health competencies as well as the core emergency preparedness and response competencies. State agencies in North Carolina, Virginia, and West Virginia are using this instrument to assess the training needs of public health workers.

The Virginia Department of Health administered the workforce training needs survey via the Internet and by mail. All participants were contacted initially through a letter that included information on the purpose of the survey, a description of how the data were to be reported, and instructions on how to access the survey via the Internet. Employees who did not have access to email were mailed a paper copy of the survey. The Virginia Department of Health contacted non-responders multiple times via email and telephone to prompt them to complete the survey. Follow up of non-responders also included distribution of paper copies when requested.

Data are summarized separately in this report for Emergency Preparedness and Response Competencies and for Core Public Health Competencies.

For **Emergency Preparedness and Response Competencies** (Section 1 of the assessment), participants are asked two questions in each competency area: 1) Rate your confidence in being able to carry out each emergency response activity and 2) Indicate your level of need for more training to do this activity.

A Likert scale from 1 to 4 is offered and participants are asked to respond with the following instructions:

My personal confidence to do this activity: 1=Low, 2, 3, 4=High
My level of need for training: 1=Low, 2, 3, 4=High

For **Core Public Health Competencies** (Sections 2 – 11 of the assessment), participants are asked:

1) How important is this skill to your job and 2) Indicate your level of need for more training to do this activity. Again, the same scale ranging from 1 to 4 is offered, and participants are asked to respond with the following instructions:

This skill is important to my job: 1=Low, 2, 3, 4=High
My level of need for training: 1=Low, 2, 3, 4=High

Priority training needs are determined with the aid of a scoring mechanism that translated response answers 1, 2, 3, and 4, to 1, 6, 9, and 10 respectively. Because we are creating a composite value of 'job' and 'training' the 1, 6, 9, 10 designation yields a different value for each possible combination. With this translation, each possible combination of job and training score yields a unique value, which increases the variability and accuracy of the scores. For instance, a job score of 1 and a training score of 3 yields a composite score of 4. Yet the same composite score can be calculated from a job score of 2 and a training score of 2. Different responses to the same series of questions provide the same end result. With the 1, 6, 9, 10 scale however, the analogous ranks give composites of 10 and 12, showing that the two responses are actually different, and allows for better priority ranking.

In the summary of core competency priority training needs, the **median** scores for each competency are reported. The median is the value that is exactly in the center of the distribution of all values. If every person's response to each question is lined up in order from highest to lowest, the median is the value of the response that is in the middle of the line up. Half of the people responded higher than the median value, and half of the people responded lower than the median value. The median is used because it is not affected by the extreme values.

Overall Key Findings

Demographic Summary:

The Virginia public health workforce survey included the participation of 1,980 people. Demographic data on respondents are presented in Table 3 on page 14. Seventy-eight percent (78%) of the responding work force is female, 22% is male. The largest age group is that aged 45 – 54 years (41%). Seventy-eight percent (78%) of this population self-identify as white or Caucasian and 16% self-identify as black or African-American, while slightly less than 3% self-identify as Latino. The educational background of this workforce is varied: 35% have an associate's degree, 60% have a bachelor's degree, 20% have a master's degree, and 3% have a doctorate. The majority of respondents (97%) have access to the Internet, yet only 26% have taken an Internet-based course. Most workers (74%) share their computer with others and 81% report having Internet access at home.

Training Needs Summary:

Training needs are outlined by overall findings for the state of Virginia and also by district, within each of the five regions in Virginia.

For each of the **Emergency Preparedness and Response Competencies**, the top training needs were identified by low median scores for personal confidence and high median scores for need for training. For each measure, the lowest possible median score was 1 and the highest possible median score was 10. The variables for "confidence to do this activity" and "need for training" were examined separately in this section.

The top training needs for Virginia participants overall, as determined by a median score of 6 or less for “confidence” and 9 or more for “need,” were:

- Describe the incident command system in your community. (6, 9)
- Use emergency communication equipment. (6, 9)
- Describe the signs and symptoms of biological agents that may be used in a bio-terrorist attack (e.g. Plague, Small Pox, Anthrax), and respond appropriately when you suspect someone in your community has been exposed to one of these agents. (6, 9)
- Describe the signs and symptoms of exposure to chemicals that might be used in a terrorist attack (e.g., Sarin, Ricin), and respond appropriately when you suspect someone in your community has been exposed to one of these agents. (6, 9)

Among the **Core Public Health Competencies**, the top training needs were identified as those having a high combined median score. For each public health core competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. The top training needs for Virginia participants overall, as determined by a combined median score of 16 or more, were:

- Stay informed of public health laws and regulations. (18)
- Be aware of important health conditions in your community. (16)
- Recognize a disease outbreak in your community or nearby communities. (16)
- Present information or data on health issues to other health professionals or to the general public. (16)
- Maintain the security and confidentiality of personal and public health information. (16)
- Communicate effectively both in writing and speaking. (16)
- Identify cultural, social, and behavioral factors that affect health problems in your community. (16)
- Provide health promotion and disease prevention information to groups or individuals. (16)
- Interact effectively with people from diverse cultural, socioeconomic, and educational backgrounds. (16)
- Collect, summarize, and interpret information relevant to a health issue. (16)
- Use regulations to promote health in your community. (16)
- Explain public health regulations to community. (16)

Combined data for the Virginia Public Health Workforce

Region 1 including the following districts: Central Shenandoah, Lord Fairfax, Rappahannock, Rappahannock/Rapidan, Thomas Jefferson.....

Region 2 including the following districts: Alexandria, Arlington, Fairfax, Loudoun, Prince William

Region 3 including the following districts: Alleghany, Central Virginia, Cumberland Plateau Lenowisco, Mount Rogers, New River, Pittsylvania/Danville, Roanoke City West Piedmont

Region 4 including the following districts: Chesterfield, Crater, Hanover, Henrico, Piedmont Richmond City, Southside

Region 5 including the following districts: Chesapeake, Eastern Shore, Hampton, Norfolk, Peninsula, Portsmouth, Three Rivers, VA Beach, Western Tidewater

Central Office data including the following district offices:
Budget, Commissioner's Office, CQHCCP, Emergency Medical Services, Environmental Health and Water Programs, EPI, EPR, Fiscal, Health Planning and Policy, Health Statistics, Human Resources, Medical Examiner, Office of Drinking Water, OIM, Vital Records.

A Report on Training Needs Region 1: Northwest

Response Rate

The data presented in this report represent information gathered between May 6, 2003, and June 20, 2003.

In the Region 1, 185 people responded to the survey.

Key Findings

For each of the Emergency Preparedness and Response Competencies, top training needs were identified. The variables for "confidence to do this activity" and "need for training" were examined separately. For each measure the lowest possible median score was 1 and the highest possible median score was 10. **The top training needs for this section were determined by a median score of 6 or lower for personal confidence and a median score of 9 or higher for need for training.**

The top emergency preparedness training needs for participants in Region 1 were:

- Describe your health department's emergency response plan. (6 confidence, 10 need)
- Describe the incident command system in your community. (6 confidence, 10 need)
- Use emergency communication equipment. (6 confidence, 10 need)
- Describe the signs and symptoms of exposure to biological agents. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to chemical agents. (6 confidence, 9 need)

The top training needs among the Public Health Core Competencies were also identified. For each Public Health Core Competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. **Top training needs for these sections were determined by a combined median score of 17 or higher.**

The top core competency training needs for participants in Region 1 were:

- Stay informed of public health laws and regulations. (19)
- Be aware of amount of each important health problems in your community. (18)
- Interact effectively with people from diverse backgrounds. (18)
- Use regulations to promote health in your community. (18)
- Explain public health regulations to community. (18)
- Identify cultural, social, and behavioral factors that affect health problems in your community. (17)

A Report on Training Needs Region 2 : Northern

Response Rate

The data presented in this report represent information gathered between May 6, 2003, and June 20, 2003. In Region 2, 292 people responded to the survey.

Key Findings

For each of the Emergency Preparedness and Response Competencies, top training needs were identified. The variables for "confidence to do this activity" and "need for training" were examined separately. For each measure the lowest possible median score was 1 and the highest possible median score was 10. **The top training needs for this section were determined by a median score of 6 or lower for personal confidence and a median score of 9 or higher for need for training.**

The top emergency preparedness training needs for participants in Region 2 were:

- Describe the incident command system in your community. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to chemical agents. (6 confidence, 9 need)

The top training needs among the Public Health Core Competencies were also identified. For each Public Health Core Competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. **Top training needs for these sections were determined by a combined median score of 16 or higher.**

The top core competency training needs for participants in Region 2 were:

- Stay informed of public health laws and regulations. (18)
- Be aware of amount of each important health problem in your community. (16)
- Use reports to identify important health issues in your community. (16)
- Determine appropriate uses of existing health data for your community. (16)
- Recognize a disease outbreak in your community or nearby communities. (16)
- Present information or data on health issues to others. (16)
- Maintain the security and confidentiality of personal and public health information
- Communicate effectively both in writing and speaking. (16)
- Identify factors that affect health problems in your community. (16)
- Provide health promotion and disease prevention information to groups or individuals.

(16)

- Interact effectively with people from diverse backgrounds. (16)
 - Collect, summarize, and interpret information relevant to a health issue. (16)
 - Explain public health regulations to community. (16)
 - Identify healthcare service needs in your community. (16)
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A Report on Training Needs Region 3: Southwest

Response Rate

The data presented in this report represent information gathered between May 6, 2003, and June 20, 2003. In Region 3, 506 people responded to the survey.

Key Findings

For each of the Emergency Preparedness and Response Competencies, top training needs were identified. The variables for "confidence to do this activity" and "need for training" were examined separately. For each measure the lowest possible median score was 1 and the highest possible median score was 10. **The top training needs for this section were determined by a median score of 6 or lower for personal confidence and a median score of 9 or higher for need for training.**

The top emergency preparedness training needs for participants in Region 3 were:

- Describe the incident command system in your community. (6 confidence, 9 need)
- Use emergency communication equipment. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to biological agents. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to chemical agents. (6 confidence, 9 need)

The top training needs among the Public Health Core Competencies were also identified. For each Public Health Core Competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. **Top training needs for these sections were determined by a combined median score of 18 or higher.**

The top core competency training needs for participants in Region 3 were:

- Stay informed of public health laws and regulations. (19)
- Be aware of amount of each important health problem in your community. (18)
- Communicate effectively both in writing and speaking. (18)
- Interact effectively with people from diverse backgrounds. (18)

A Report on Training Needs Region 4: Central

Response Rate

The data presented in this report represent information gathered between May 6, 2003, and June 20, 2003. In Region 4, 529 people responded to the survey.

Key Findings

For each of the Emergency Preparedness and Response Competencies, top training needs were identified. The variables for "confidence to do this activity" and "need for training" were examined separately. For each measure the lowest possible median score was 1 and the highest possible median score was 10. **The top training needs for this section were determined by a median score of 6 or lower for personal confidence and a median score of 9 or higher for need for training.**

The top emergency preparedness training needs for participants in Region 4 were:

- Describe the incident command system in your community. (6 confidence, 9 need)
- Use emergency communication equipment. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to biological agents. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to chemical agents. (6 confidence, 9 need)

The top training needs among the Public Health Core Competencies were also identified. For each Public Health Core Competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. **Top training needs for these sections were determined by a combined median score of 16 or higher.**

The top core competency training needs for participants in Region 4 were:

- Stay informed of public health laws and regulations. (18)
- Be aware of amount of each important health problem in your community. (16)
- Recognize a disease outbreak in your community or nearby communities. (16)
- Present information or data on health issues to others. (16)
- Maintain the security and confidentiality of personal and public health information. (16)
- Communicate effectively both in writing and speaking. (16)
- Interact effectively with people from diverse backgrounds. (16)
- Collect, summarize, and interpret information relevant to a health issue. (16)

A Report on Training Needs Region 5: Eastern

Response Rate

The data presented in this report represent information gathered between May 6, 2003, and June 20, 2003. In region 5, 390 people responded to the survey.

Key Findings

For each of the Emergency Preparedness and Response Competencies, top training needs were identified. The variables for "confidence to do this activity" and "need for training" were examined separately. For each measure the lowest possible median score was 1 and the highest possible median score was 10. **The top training needs for this section were determined by a median score of 6 or lower for personal confidence and a median score of 9 or higher for need for training.**

The top emergency preparedness training needs for participants in Region 5 were:

- Describe the incident command system in your community. (6 confidence, 9 need)
- Use emergency communication equipment. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to chemical agents. (6 confidence, 9 need)

The top training needs among the Public Health Core Competencies were also identified. For each Public Health Core Competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. **Top training needs for these sections were determined by a combined median score of 18 or higher.**

The top core competency training needs for participants in Region 5 were:

- Be aware of amount of each important health problem in your community. (18)
- Interact effectively with people from diverse backgrounds. (18)
- Stay informed of public health laws and regulations. (18)

A Report on Training Needs Central Office

Response Rate

The data presented in this report represent information gathered between May 6, 2003, and June 20, 2003. 281 participants from divisions of the Central Office responded to the survey.

Key Findings

For each of the Emergency Preparedness and Response Competencies, top training needs were identified. The variables for "confidence to do this activity" and "need for training" were examined separately. For each measure the lowest possible median score was 1 and the highest possible median score was 10. **The top training needs for this section were determined by a median score of 6 or lower for personal confidence and a median score of 9 or higher for need for training.**

The top emergency preparedness training needs for participants in Central Office District were:

- Describe your health department's emergency response plan. (6 confidence, 9 need)
- Describe the incident command system in your community. (6 confidence, 9 need)
- Use emergency communication equipment. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to a biological agent. (6 confidence, 9 need)
- Describe the signs and symptoms of exposure to chemical agents. (6 confidence, 9 need)

The top training needs among the Public Health Core Competencies were also identified. For each Public Health Core Competency, a composite variable was created summing the numeric values for "importance of activity" and "training need." The median value across all observations was calculated for each competency. The lowest possible combined median score was 2 and the highest possible score was 20. **Top training needs for these sections were determined by a combined median score of 16 or higher.**

The top core competency training needs for participants in Central Office District were:

- Communicate effectively both in writing and speaking. (16)
- Stay informed of public health laws and regulations. (16)